wherein the scene energy from the optical train is mapped nonlinearly onto the detector array.

2. (Original) The sensor system of claim 1, wherein the sensor system further includes

a color filter positioned between the scene and the detector.

3. (Original) The sensor system of claim 1, wherein the input shape of each fiber is substantially in the form of a rectangle and the output shape is substantially in the form of a square.

4. (Original) The sensor system of claim 1, wherein the fiber input size of each respective optical fiber is larger than the fiber output size of that optical fiber.

5. (Original) The sensor system of claim 1, wherein the sensor system further includes

an electronic device operable to read the electrical signal of the detector, and

image-processing electronics.

6. (Canceled)

7. (Previously presented) A sensor system for viewing light energy from a scene, comprising:

an imaging infrared detector which converts incident light energy into an electrical signal, the imaging detector having

a first-color region, and

a second-color region;

a first-color imaging system comprising:

a first-color filter positioned between the scene and the first-color region of the imaging detector,

a first-color optical train that focuses first-color scene energy onto the first-color region of the imaging detector, and

a first-color optical fiber bundle having a first-color input end that receives the first-color scene energy from the first-color optical train and a first-color output end that directs the first-color scene energy onto the first-color region of the imaging detector, wherein the first-color scene energy from the first-color optical train is mapped nonlinearly onto the first-color region of the imaging detector, the first-color optical fiber bundle comprising a plurality of first-color optical fibers wherein each of the first-color optical fibers has a first-color fiber input shape and size at its first-color input end and a first-color output shape and size at its first-color output end, the first-color output shape and size being different from the first-color input shape and size; and

a second-color imaging system comprising:

a second-color filter positioned between the scene and the second-color region of the imaging detector,

a second-color optical train that focuses second-color scene energy onto the second-color region of the imaging detector, and

a second-color optical fiber bundle having a second-color input end that receives the second-color scene energy from the second-color optical train and a second-color output end that directs the second-color scene energy onto the second-color region of the imaging detector, the second-color optical fiber bundle comprising a plurality of second-color optical fibers wherein each of the second-color optical fibers has a second-color fiber input shape and size at its second-color input end and a second-color output shape and size at its second-color output end, the second-color output shape and size being different from the second-color input shape and size.

8. (Previously presented) The sensor system of claim 15, wherein

the first-color region of the imaging detector is sensitive to light energy that passes through the first-color filter and light energy that passes through the second-color filter, and

the second-color region of the imaging detector is sensitive to light energy that

passes through the first-color filter and light energy that passes through the second-color filter.

9. (Previously presented) The sensor system of claim 15, wherein the first-color region and the second-color region are in the same plane.

10. (Previously presented) The sensor system of claim 15, wherein each first-color fiber has its first-color fiber input shape substantially in the form of a rectangle and its first-color fiber output shape is substantially in the form of a square.

11. (Previously presented) The sensor system of claim 15, wherein each second-color fiber has its second-color fiber input shape substantially in the form of a rectangle and its second-color fiber output shape is substantially in the form of a square.

12. (Previously presented) The sensor system of claim 15, wherein the first-color fiber input size of the first-color optical fibers is larger than the first-color fiber output size of the first-color optical fibers.

13. (Previously presented) The sensor system of claim 15, wherein the second-color fiber input size of the second-color optical fibers is larger than the second-color fiber output size of the second-color optical fibers.

14. (Previously presented) The sensor system of claim 15, wherein the sensor system further includes

an electronic device operable to read the electrical signal of the imaging detector, and

image-processing electronics.

15. (Previously presented) A sensor system for viewing light energy from a scene, comprising:

an imaging detector which converts incident light energy into an electrical signal, the imaging detector having

a first-color region, and

a second-color region;

a first-color imaging system comprising:

a first-color filter positioned between the scene and the first-color region of the imaging detector,

a first-color optical train that focuses first-color scene energy onto the first-color region of the imaging detector, and

a first-color optical fiber bundle having a first-color input end that receives the first-color scene energy from the first-color optical train and a first-color output end that directs the first-color scene energy onto the first-color region of the imaging detector, wherein the first-color scene energy from the first-color optical train is mapped nonlinearly onto the first-color region of the imaging detector, the first-color optical fiber bundle comprising a plurality of first-color optical fibers wherein each of the first-color optical fibers has a first-color fiber input shape and a first-color fiber input size at its first-color input end and a first-color output shape and first-color fiber output size at its first-color output end, the first-color output shape and the first-color fiber output size being different from the first-color input shape and the first-color fiber input size; and

a second-color imaging system comprising:

a second-color filter positioned between the scene and the second-color region of the imaging detector,

a second-color optical train that focuses second-color scene energy onto the second-color region of the imaging detector, and

a second-color optical fiber bundle having a second-color input end that receives the second-color scene energy from the second-color optical train and a second-color output end that directs the second-color scene energy onto the second-color region of the imaging detector, the second-color optical fiber bundle comprising a plurality of second-color optical fibers wherein each of the second-color optical fibers

has a second-color fiber input shape and a second-color fiber input size at its second-color input end and a second-color output shape and a second-color fiber output size at its second-color output end, the second-color output shape and the second-color fiber output size being different from the second-color input shape and the second-color fiber input size.

16. (Original) A sensor system for viewing scene energy, comprising:

an imaging detector which converts incident light energy into an electrical signal, the imaging detector having a first-color region and a second-color region;

a first-color imaging system comprising:

a first-color filter positioned between the scene and the first-color region of the imaging detector;

a first-color optical train that focuses first-color scene energy onto the first-color region of the imaging detector, and

a first-color optical fiber bundle having a first-color input end that receives the first-color scene energy from the optical train and a first-color output end that directs the first-color scene energy onto the first-color region of the imaging detector, wherein the first-color scene energy is mapped nonlinearly onto the first-color region of the imaging detector, the first-color optical fiber bundle comprising a plurality of first-color optical fibers wherein each of the first-color optical fibers has a first-color fiber input shape and size at its first-color input end and a first-color output shape and size at its first-color output end, the first-color output shape and size being different from the first-color input shape and size;

a second-color imaging system comprising:

a second-color filter positioned between the scene and the second-color region of the imaging detector;

a second-color optical train that focuses second-color scene energy onto the second-color region of the imaging detector, and

a second-color optical fiber bundle having a second-color input end that receives the second-color scene energy from the optical train and a second-color output

end that directs the second-color scene energy onto the imaging detector, wherein the second-color scene energy is mapped nonlinearly onto the second-color region of the imaging detector, the second-color optical fiber bundle comprising a plurality of second-color optical fibers wherein each of the second-color optical fibers has a second-color fiber input shape and size at its second-color input end and a second-color output shape and size at its second-color output end, the second-color output shape and size being different from the second-color input shape and size;

an electronic device operable to read the electrical signal of the imaging detector; and

image-processing electronics.

17. (Previously presented) A sensor system for viewing light energy from a scene, comprising:

an imaging detector which converts incident light energy into an electrical signal, the detector including an imaging detector array;

an optical train that focuses the light energy of the scene; and

an optical fiber bundle having an input end that receives the scene from the optical train and an output end that directs the energy of the scene onto the detector array, the optical fiber bundle comprising a plurality of optical fibers wherein each fiber has an input shape and size at its input end and an output shape and size at its output end, the output shape and size being different from the input shape and size.

18. (Previously presented) The sensor system of claim 15, wherein the detector is an infrared imaging detector.

19. (Previously presented) The sensor system of claim 16, wherein the detector is an infrared imaging detector.

20. (Previously presented) A sensor system for viewing light energy from a scene, comprising:

a detector which converts incident light energy into an electrical signal, the detector including an imaging detector array;

an optical train that focuses the light energy of the scene; and

an optical fiber bundle having an input end that receives the scene from the optical train and an output end that directs the energy of the scene onto the detector array, the optical fiber bundle comprising a plurality of optical fibers wherein each fiber has a rectangular input shape at its input end and a square output shape at its output end.